

COUNTER-TORQUE issue 50 November 2018

In starting to write this issue of Countertorque I discovered there was no formal issue of a Countertorque for March of this year; I appear to have relied on the Chair's report to the Annual Meeting on March 23rd, to cover the events between November 2017 and March 2018. For those who were not at the Annual Meeting, I will briefly review the events for those six months.

Our Festive event dinner and lecture, took place in early December. It was mainly organised and supported by IET, with some assistance from the CCB. IET provided the speaker, Mr. Kayyoun Ali, who is currently a Senior Project Manager at Morrison-Hershfield. The title of his lecture was "The Future of Intelligent Transportation Systems." We were told of how our congested roads and highway systems are being handled at the present time and what might happen in the future to improve things.



In addition to the IET we continued to collaborate with other UK based organisations, these are: CIBSE, CIPS and BCS. Typical of these was organised by the BCS (British Computer Institute) and was held at the Royal Canadian Military Institute on October 17th. The talk was given by Kevin McGurgan OBE – UK Consul General & Director-General, International Trade. This well attended talk was on "Brexit, Innovation and Disruption", we heard about the current Brexit situation and also the workings of

the UK Science and Innovation Network (SIN). The meeting was attended by at least four from the Central Canada Branch.

For our Annual Meeting Dinner/Lecture event on March 23rd, 2018; some members of the CCB Committee spoke under the title "50 years in 10 minutes.... Career memories, lessons: Show and Tell". Phil Apperly and John White were the main presenters and others contributed some of their career experiences. The event was attended by about 35 members and guests.

Our next event was a site visit to the Darlington Nuclear Facility. Darlington NGS is undergoing a major refurbishment and this was the main reason for visiting Darlington at this time.

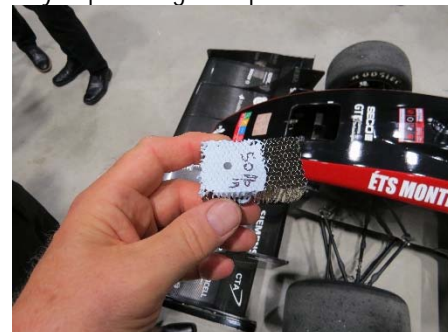


About 20 people attended. On arrival we were welcomed and then boarded a bus for a tour of the Darlington NGS site. We then returned to the Information Centre and after a safety briefing and issue of PPE, we toured the very impressive Mock-up Facility. The visit concluded with a detailed presentation on OPG's Darlington Refurbish Project. We were given the chance to ask questions, many took the opportunity. The CCB thank Chuck Lamers, of OPG, who hosted us throughout our visit and to our member, Tony Lees who suggested and initiated the contact with Darlington.

For another year we continued to sponsor Formula North which took place from May 31st to June 3rd, 2018, at the Molson Centre, Barrie. Our Hon. Secretary, Phil Apperly was the only

CCB member to attend this year; once again he was one of the judges for this event.

Registration for judges was entirely on-line this year and had some teething problems, but there was once more a good selection of folk with expertise in all aspects of vehicle design and construction. Many of the cars had been seen in previous years. It was interesting to see what updates and changes had been installed since the last time we saw them. Of particular note were the increased use of carbon fiber, in primary structure as well as in fairings and aerodynamic attachments. An interesting way of providing hard-points in



honeycomb sandwich structures on the ETS car from Montreal is shown above. The local area is injected with an epoxy mix and can then have a fastener inserted or be drilled and tapped directly. The epoxy thus transmits the point load over a larger area into the carbon-fiber skin. Another feature which intrigues me is the



variety of approaches to exhaust system design. There are strict decibel limits to be met as well as tight envelope constraints. All the vehicles are rear-engined, and so

some teams opt for forward facing units (which I nick-named retro-rockets, see below) while others (see above) have more traditional examples of the tin-bashers art.

Among the many other trade-offs in the design process are accessibility and serviceability. The seat and/or pedals must be adjustable to accommodate a variety of drivers and the need to change-out wear parts quickly and safely on race day and during development trials can certainly affect the overall results.



Apart from the work put into the vehicles themselves and the skill of their drivers on the Autocross and endurance circuits, the design documents and live presentations to the judging panels deserve praise for their clarity, detail and excellent narrative and graphics. I was not involved with the electric vehicle class this year, but the build, safety standards and performance of these vehicles again mirrored the transition taking place on our roads. They are no longer the poor cousins to the combustion-engined vehicles but are now sufficiently matured that they can compete on an equal footing.

As a long-time sponsor of Formula North, the Central Canada Branch has recently been advised the Formula North competition is being transitioned under SAE International's Formula SAE program. Formula North Inc., the organisation that has run Formula North since its start in 2010, will cease to exist. In future the program will launch under new branding as "Formula SAE® North", and will host both Internal Combustion (IC) and Electric Vehicle (EV) classes. In view of this change in organisation, we still plan to support the event, but we may do so by supporting an Ontario

University team, instead of sponsoring the event through the organizers. This will be decided at some time nearer next year's event.

As is our practice, we do not organise lectures or plant tours over the summer months.

As many of you already know we had arranged for a plant tour of MHI Canada Aerospace Inc.'s plant in Mississauga, for October 18th. Unfortunately, this had to be postponed for MHI's business reasons. It is hoped the plant tour will take place sometime within the next few weeks.

For our annual Festive Event we have already reserved our usual venue at the Novotel in North York for December, 14th, 2018. We are in the process of finalizing the speaker for this event. The flyer giving full details is being sent out with this issue of Countertorque. We share this event with IET, but this year the CCB will take the lead in organizing the event, IET will contribute. We choose the Novotel, North York because it is reasonably central to the GTA, is accessible by car and has direct access from North York Centre subway station; so I hope as many as possible will attend. Numbers are limited so early registration is recommended.

Immediately before the start of the Festive event at 5:30 pm we plan to have a face to face CCB Committee meeting; all fellows and members are welcome to attend if they can arrive early enough.

Your Committee has a few very active members who are dedicated to providing at least 4 to 6 events per year. To continue to do this we would really appreciate some input from the general membership of the CCB. We always welcome suggestions of topics for lectures/talks and for plant tours. Even better, if you know of a speaker or lecturer we would certainly be happy to contact them. Similarly, if anyone knows of a facility or plant they are interested in visiting, please let us know. Again, a contact name is always helpful. Feed

back is important to your Committee, if we are to continue to provide a program which is of interest to the membership.

Last, but certainly not least, I must thank all Branch Officers, specifically our Hon-Secretary Phil Apperly, and our Hon-Treasurer Peter Dennis, who have both served the Central Canada Branch for another year with dedication and perseverance. I must also acknowledge Helen Varley who has served as our webmaster for another year. Over the past year other CCB committee members have contributed in many ways. I hope it is not too early to wish everyone all the best of the season and for the New Year.

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